Abstract

A Pipelined-based Maximal-sized Matching (PMM)
scheduling approach for input-buffered switches relaxes the
timing constraint for arbitration with a maximal matching
scheme. In the PMM approach, arbitration may operate in a
pipelined manner. Each subscheduler is allowed to take
more than one time slot for its matching. Every time slot,
one of them provides the matching result. The subscheduler
can adopt a pre-existing efficient maximal matching
algorithm such as iSLIP and DRRM. PMM maximizes the
efficiency of the adopted arbitration scheme by allowing
sufficient time for a number of iterations. PMM preserves
100% throughput under uniform traffic and fairness for
best-effort traffic.